Prepared for State Significant Development Application (SSDA)

43-61 Turner Road, Gregory Hills NSW

October 2024

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Design Statement

Design Statement
Proposal overview

Proposed Development

The Proposal involves the construction of a data centre comprising of data halls, mechanical and electrical equipment rooms, offices, substation, security gatehouse, other ancillary support spaces, and external/rooftop, mechanical and electrical equipment.

Historically, the Site has been used for rural residential development. Based on historic mapping the Site has been progressively developed since the 1940s. However, the Site is currently unoccupied following its acquisition by the applicant in 2023. Currently, the Site is vacant, with farm dams and a former residential building remaining present within the extent of the Site. The area surrounding the Site is predominantly commercial/industrial land. Immediately to the east is comprised of a riparian corridor, and farther east comprises of vacant land and residential properties. The Site is zoned IN1 General Industrial under State Environmental Planning Policy (Precincts – Western Parkland City) 2021 (WPC SEPP).

The Site generally slopes downward from the northwest corner to the southeast corner. Ground elevations vary with the Site at its highest in the northwest corner at about 104 metres Australian Height Datum (mAHD). The Site is at its lowest in the southwest corner at about 91 mAHD

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A summary of the proposal's key features includes:

- Construction of a two storey data centre comprising:
  - 2 data halls including fitout of IT Racks and equipment, associated cabling and supporting services
  - 27 backup generators
  - With an IT capacity of about 53 megawatts (MW).
- Construction of a guard house
- Infrastructure comprising civil, stormwater and drainage works and utilities servicing and connections.
- Diesel storage capacity of about 900 kilo litres (kL)
- High voltage substation incorporating 132/22 kilovolt (kV) transformers and associated switching and control buildings.
- 68 standard car parking spaces (of which five would have EV charging), 2 car parking spaces compliant with the *Disability Discrimination Act 1992*, 10 shared bicycle parking spaces.
- Hours of operation being on a 24 hours per day, 7 days per week basis.

A separate development application will be lodged with Camden Council for the site preparation and early works including construction of a new eastern access road, turning head at White Cliffs Avenue and connection of Central Hills Drive through the northwestern portion of the site (refer to Figure 2).

It is expected to take approximately 18 months to build the data centre with construction of the building commencing in Q1 2026 and be completed in Q2 2027 (subject to planning approval and weather conditions). It would take an additional twelve months post-construction to fully fit out the data centre. The Proposal is expected to be fully operational in Q2 2028.

14,941 m²

GROSS FLOOR AREA (GFA)

12

DATA HALLS

27

BACKUP GENERATORS

53 MW

POWER CONSUMPTION (MEGAWATTS)

70

CAR PARKING SPACES

16,735 m²

ASSOCIATED LANDSCAPING

Built Form and Urban Design	Items	Response
	Explain and illustrate the proposed built form, including a detailed site and context analysis to justify the proposed site planning and design approach.	Addressed in pages: 6 - 14
	Demonstrate how the proposed built form (layout, height, bulk, scale, separation, setbacks, interface and articulation) addresses and responds to the context, site characteristics, streetscape and existing and future character of the locality.	Addressed in pages: 14 - 29
	Demonstrate how the building design will deliver a high-quality development, including consideration of façade design, articulation, materials, finishes, colours, any signage and integration of services.	Addressed in pages: 16 - 18

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Location

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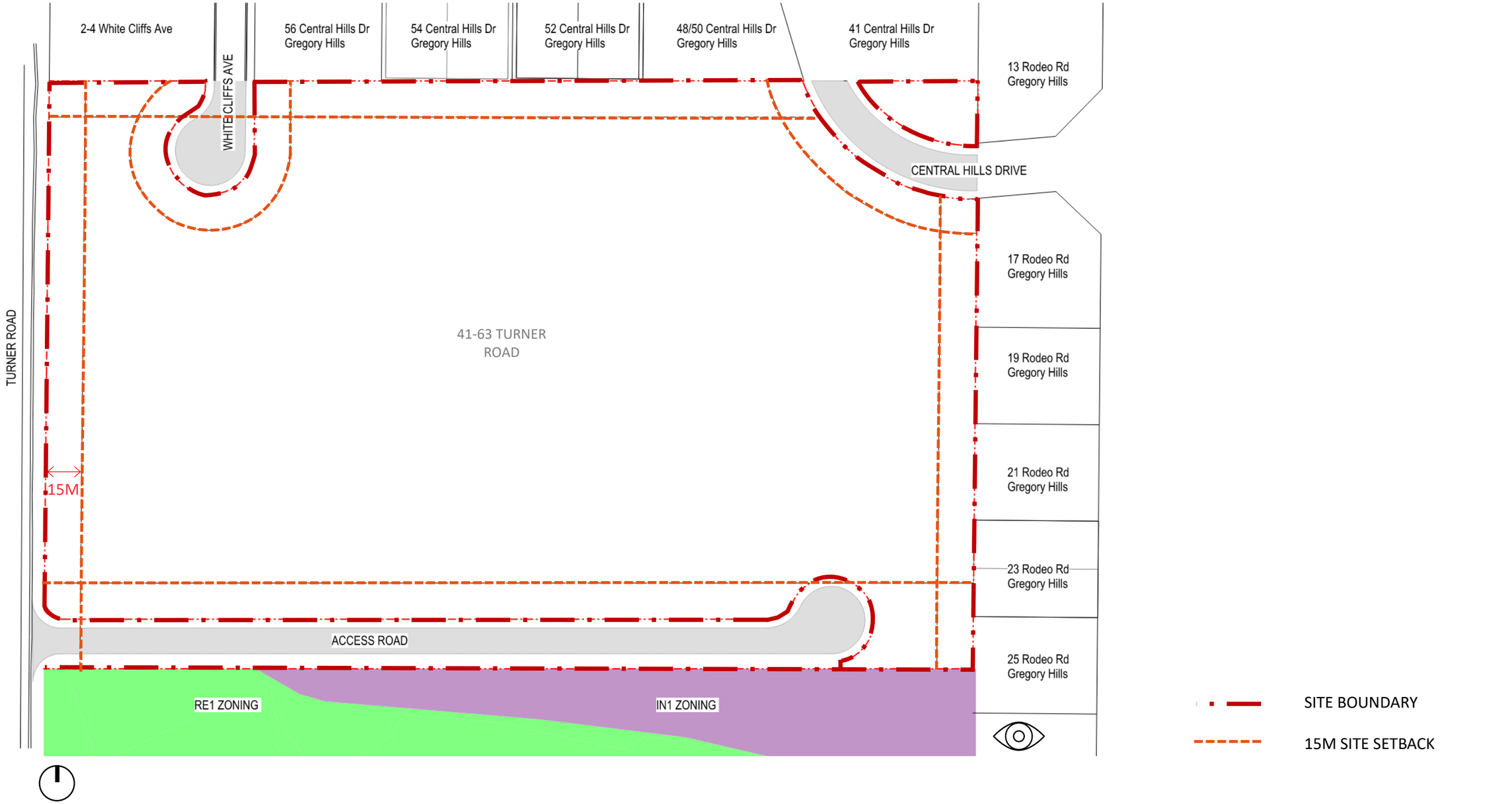
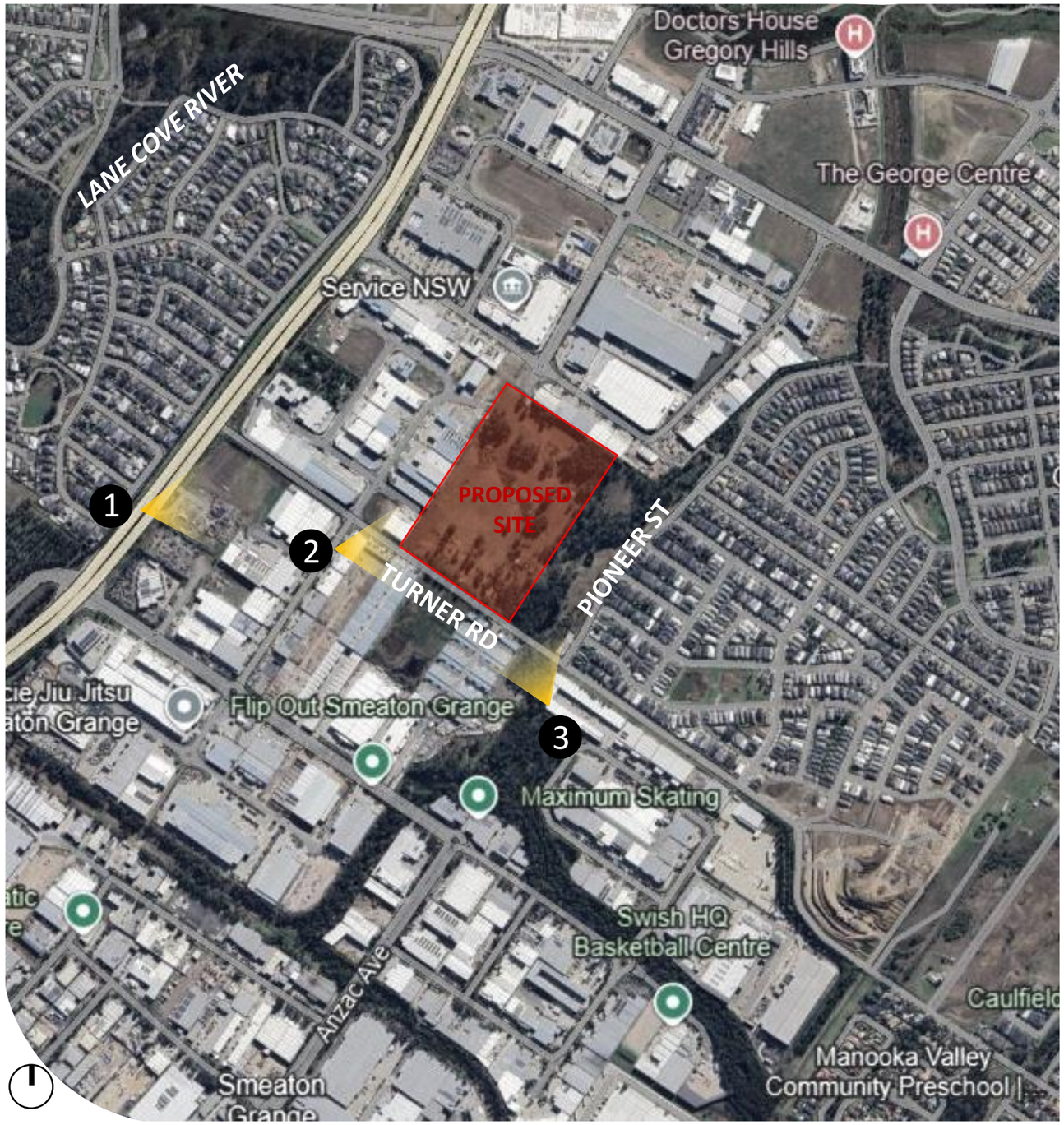
Site Analysis and Constraints

Site Analysis and Constraints



Site Analysis and Constraints

Existing Site Photos

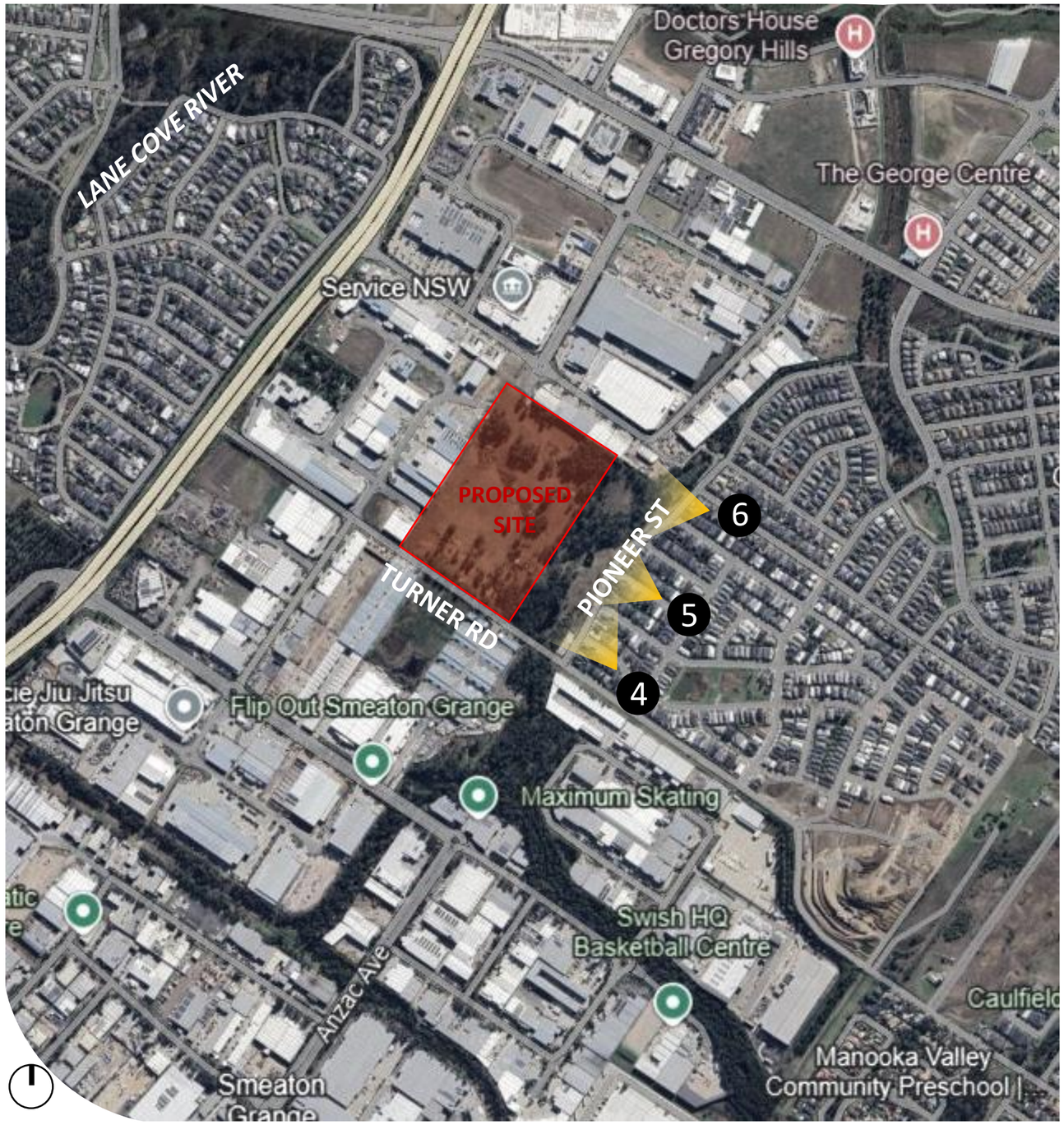


View from Camden Vally Way

View from Turner Road, looking east

View from Turner Road, looking north west

Site Analysis and Constraints
Existing Site Photos



View from Pioneer St, looking north

View from Pioneer St, looking northwest

View from Pioneer St, looking west

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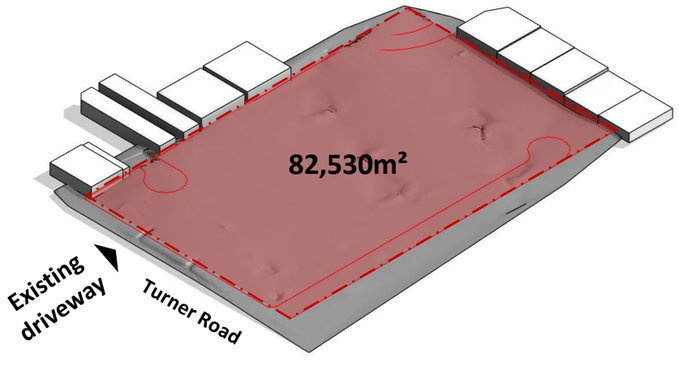
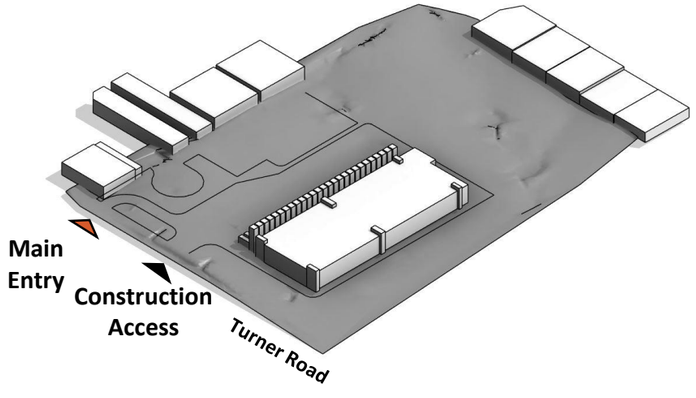
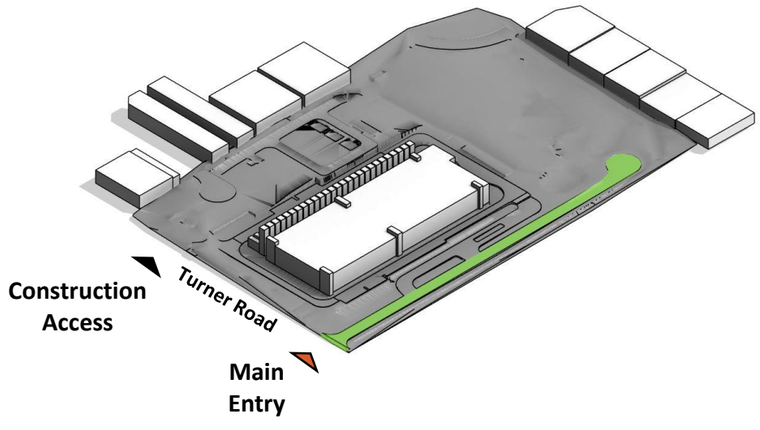
Design Principles



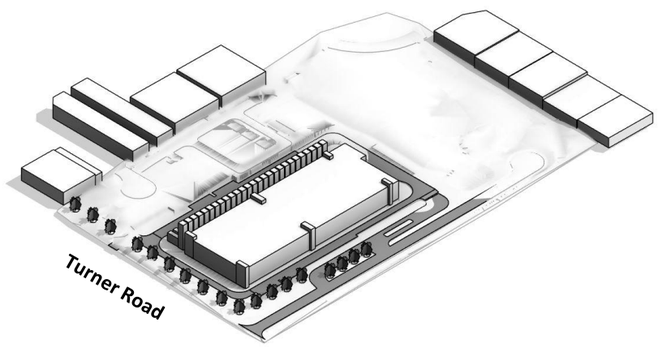
Existing site with existing driveway located within Turner Rd



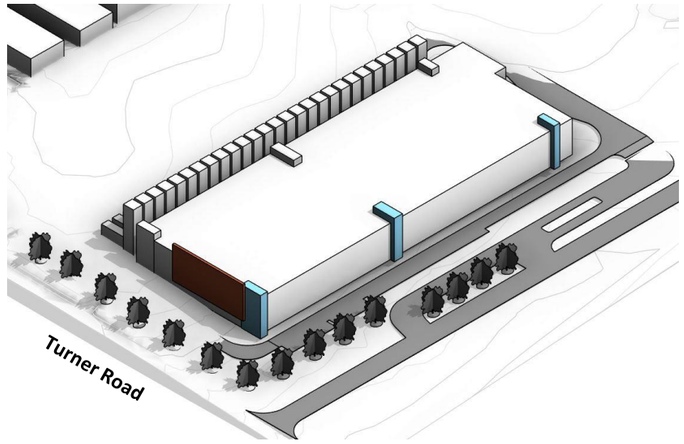
Main entry from Northwest corner of the site
Construction Access through existing driveway



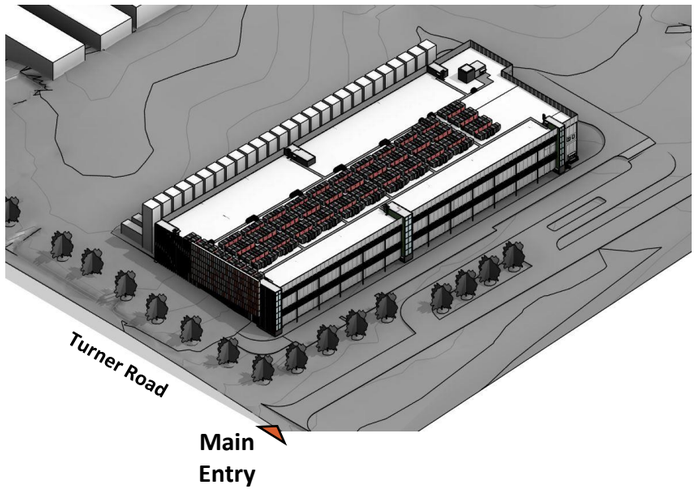
Proposed main entry via new access road along eastern boundary



Proposed trees to soften the hardscape of building along Turner Road



Provided additional articulation to the front façade of the building, breaking the long eastern elevation with extruded staircases



Final Massing with roof plants, Vertical Louvres and downpipes added more articulation to the east facade

Extent Visible From East View Receptors (Residential zone)

VIA Viewpoint 6

VIA Viewpoint 8

Images shows the extent of the development that is visible from the view receptors with a sensitivity of **high** defined in the VIA report. (Refer to Viewpoint 6 and Viewpoint 8 of the Visual Impact Report prepared by Geoscape).

Design Principles
Façade Treatment

Façade treatment is applied to the south-east as it is identified as high visual sensitivity for the receptors to the development in the VIA report.

1. The building façade on these elevations features a blend of grey-painted concrete and louvers, with additional articulation and materiality around the staircases. Additionally, parapet walls have been added to the eastern and western sides of the building to screen the rooftop plant.

2. The South elevation has been enhanced with vertical green fins, and the generators have been cladded in natural tones to create a unified design language that complements the surrounding landscaping.

As a result, the built form is recessed into the surrounding landscape, creating an engaging frontage along Turner Road.

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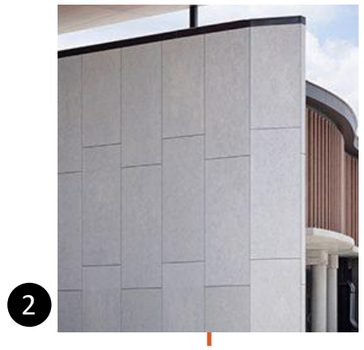
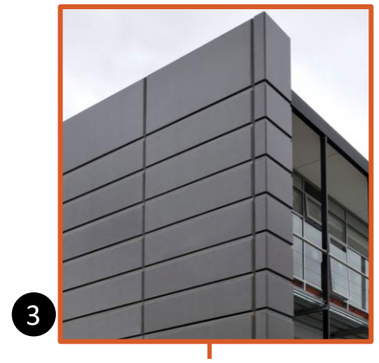
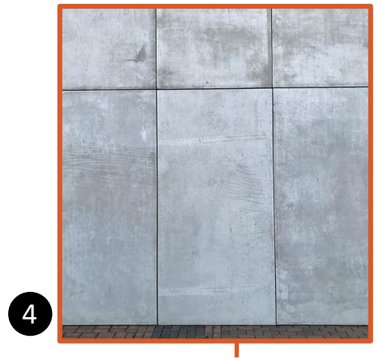
Building Envelope

Design Envelope
Building Exterior Materiality

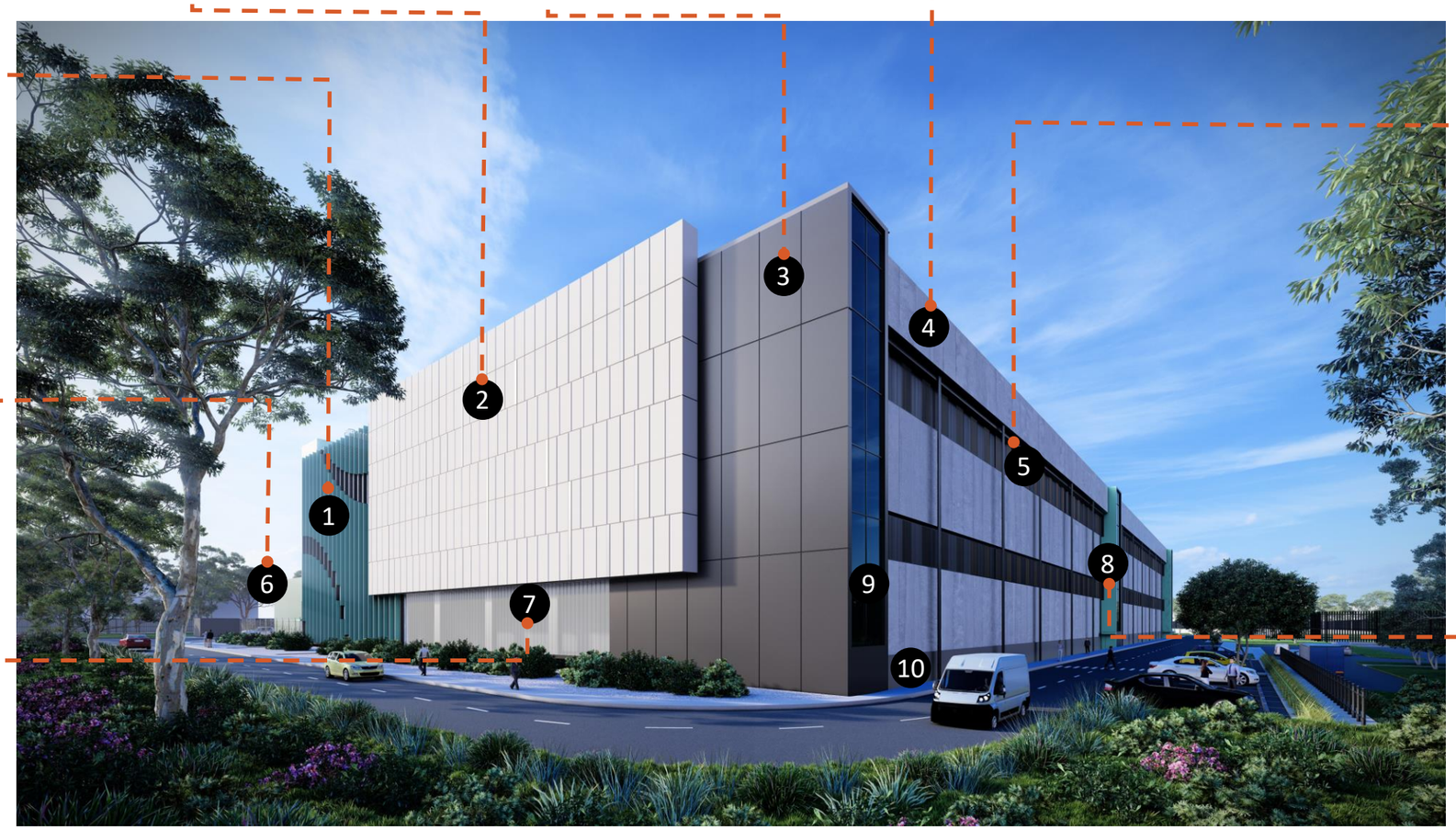






Proposed materiality to regress the building form so that it is less prominent when viewed from a distance. By providing ：

1. Light metallic Green vertical fins
2. Lightweight composite material
3. Dark grey façade finish – precast concrete
4. Lightweight composite material – parapet material
5. Aluminium Louvers in dark grey colour
6. Metal Cladding to Generators - gradient
7. Eco glass translucent
8. Green façade finish – precast concrete
9. Glazing
10. Retaining wall



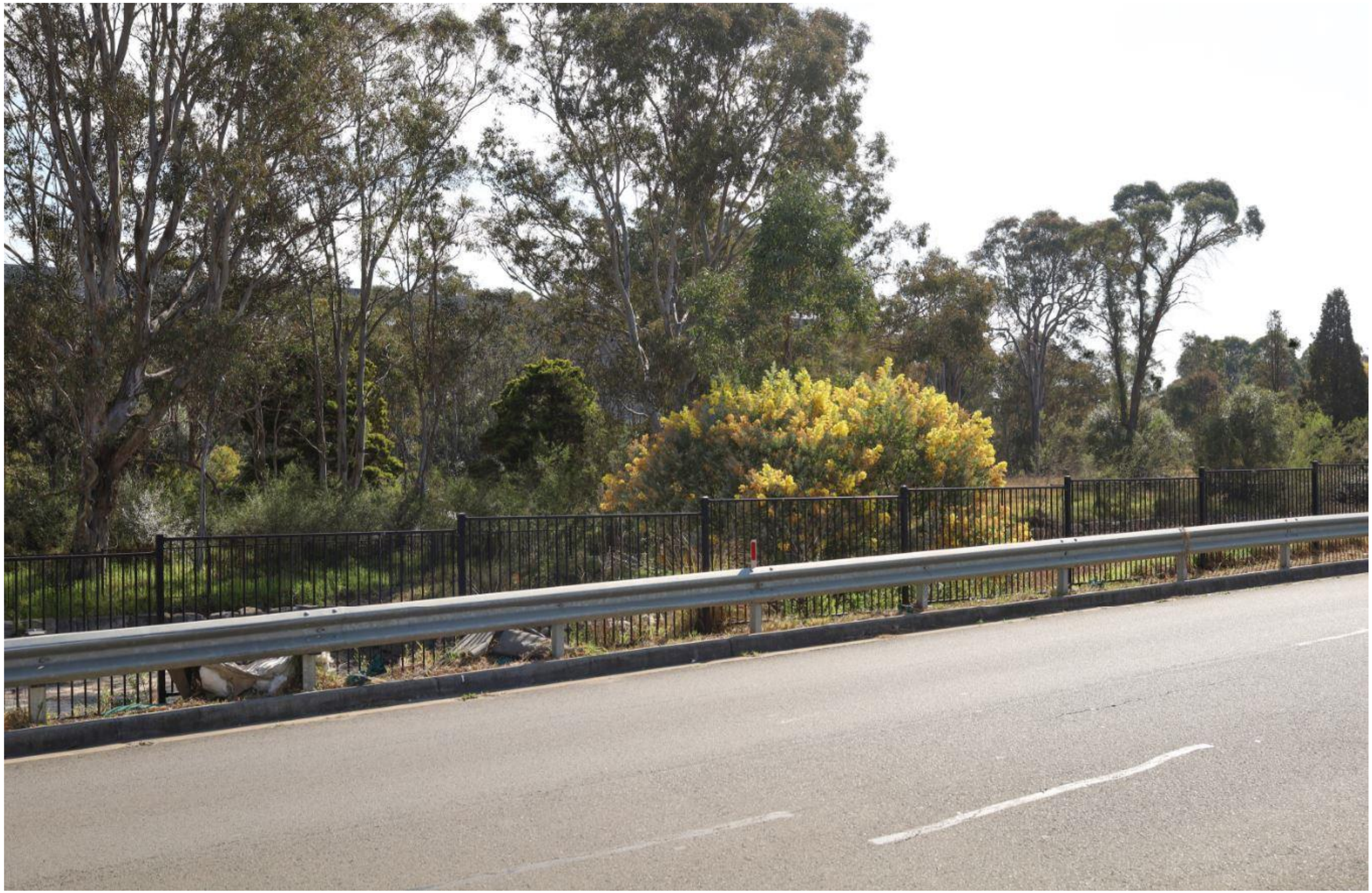
06

Street View Montages

Camden Valley Way, Harrington Park - Looking East

Turner Road (Approach from Northwest), Gregory Hills - Looking East

Turner Road (Approach from Southeast), Gregory Hills - Looking Northwest



Adjacent to 57 Pioneer Street, Gregory Hills - Looking North

Adjacent to 43 Pioneer Street, Gregory Hills - Looking Northwest

Cnr of Pioneer St & Booth St, Gregory Hills - Looking West

Adjacent to 54 Battam Road, Gregory Hills - Looking West

Healy Reserve, Gregory Hills - Looking Northwest

Turner Road (Near Int of Healy Ave), Gregory Hills - Looking Northwest

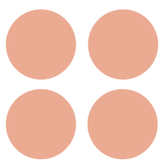
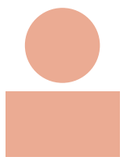
Adjacent to 63 Melton Circuit, Gregory Hills - Looking Northwest

07

Better Placed Design

The design principles for the project draws from the Government Architect NSW Better Placed- an integrated design policy for New South Wales. Each of the objectives aligns with objectives from Better Placed as shown in the table below:

Better Placed Objectives	Design Principles	Response
Objective 1: Better fit contextual, local and of its place	Good design in the built environment is informed by and derived from its location, context and social setting. It is place-based and relevant to and resonant with local character, heritage and communal aspirations. It also contributes to evolving and future character and setting.	• The site offers a unique opportunity to develop a high-quality data centre in Gregory Hills, situated within a general industrial zone. • The buildings are thoughtfully designed to engage with the street and other public areas, featuring quality landscaping along all street frontages. This includes a well-considered landscape setback from Turner Road, establishing a high standard of character and design. Additionally, providing the landscape buffer from the main road and natural screening. • Given its proximity to the riparian corridor, the building materials and colour palette have been carefully selected to blend seamlessly with the natural surroundings. • The generators are fully cladded to minimize visual impact.
Objective 2: Better performance Sustainable, adaptable and durable	Environmental sustainability and responsiveness is essential to meet the highest performance standards for living and working. Sustainability is no longer an optional extra, but a fundamental aspect of functional, whole of life design.	Environmental sustainability is a core principle for this project, ensuring that the building lifecycle and functionality responds to the built environment. The project will achieve an environmentally sustainable outcome by implementing the following objectives: • Thoughtful Layout: Designed to minimize environmental impacts and integrate with the natural landscape. • Durable Design: Built with high-quality materials to ensure longevity and reduce the need for frequent repairs. • Waste Reduction: Minimizes waste during construction and operation through recycling and efficient waste management. • Energy Efficiency: Incorporates advanced technologies to reduce emissions and pollution, including renewable energy sources and high-efficiency systems. • Low Embodied Carbon: Uses materials and methods that lower the carbon footprint, focusing on low embodied energy. • Prefinished Elements: Utilizes prefabricated parts to streamline construction and reduce on-site waste and emissions. • Enhanced Green Areas: Adds native plants and green spaces to boost biodiversity and connect with surrounding landscapes.

	Better Placed Objectives	Design Principles	Response
	**Objective 3: Better for community Inclusive, connected and diverse**	The design of the built environment must seek to address growing economic and social disparity and inequity, by creating inclusive, welcoming and equitable environments. Incorporating diverse uses, housing types and economic frameworks will support engaging places and resilient communities.	• Gregory Hills is well-connected with significant infrastructure projects like the WestConnex Motorway and the Sydney Metro railway project. This connectivity is crucial for data centres that require robust telecommunications and transport links. • Additionally, construction and operation of the building will provide employment opportunities for the local community, supporting the notion of a connected community. • The expansion of the data centre in the area will support the diversity of light industrial development types.
	**Objective 4: Better for people Safe, comfortable and liveable**	The built environment must be designed for people with a focus on safety, comfort and the basic requirement of using public space. The many aspects of human comfort which affect the usability of a place must be addressed to support good places for people.	• The building and its surroundings are designed to prioritize safety, comfort, and collaboration. The buildings are strategically located to ensure easy pedestrian access and close entrances, promoting social interaction and accessibility. • The administrative component is strategically positioned away from the main street to ensure privacy and tranquility for those working within the facility. • Car parking and bike shelter is conveniently situated next to the administrative entry. Trucks have clear paths to discreet loading docks, keeping them safely away from other visitors. • Every design aspect, from external approaches to internal spaces, focuses on the safety and comfort of staff and visitors providing also appropriate level of security to data centre development.

	Better Placed Objectives	Design Principles	Response
	**Objective 5: Better working Functional, efficient and fit for purpose**	Having a considered, tailored response to the program or requirements of a building or place, allows for efficiency and usability with the potential to adapt to change. Buildings and spaces which work well for their proposed use will remain valuable and well-utilised.	- The development is designed as a state-of-the-art data storage centre facility incorporating administration office space, data storage hall, plant and equipment areas. - The new building will feature adaptable spaces and advanced service infrastructure, creating a flexible and efficient facility designed to support future growth. This approach ensures the building remains resilient, valuable, and well-utilized over time. - The plant replacement strategy are integrated to streamline maintenance and ensure long-term sustainability.
	**Objective 6: Better value Creating and adding value**	Good design generates ongoing value for people and communities and minimises costs over time. Creating shared value of place in the built environment raises standards and quality of life for users, as well as adding return on investment for industry.	- The building will offer long-term value to the community by providing resilient infrastructure. It supports the 21st-century digital economy, enhancing the capacity of local businesses. This type of investment elevates the standards of Gregory Hills, ensuring that ongoing returns for both industry and the community. Additionally, it improves the quality of life for all building users.
	**Objective 7 ： Better look and feel Engaging, inviting and attractive**	The built environment should be welcoming and aesthetically pleasing, encouraging communities to use and enjoy local places. The feel of a place, and how we use and relate to our environments is dependent upon the aesthetic quality of our places, spaces and buildings. The visual environment should contribute to its surroundings and promote positive engagement.	- The building façade features a mix of grey and green painted concrete, creating a dynamic and articulated appearance along Turner Road. - The generator cladding enhances the design quality, while the gradient adds visual interest to the western side of the building. - Vertical fins and extruded sections on the front façade further emphasize its articulation. The glazed staircases on the eastern side provide a focal point along the access road, adding an additional design feature when illuminated. - The landscape to site frontage is treated as a design element, actively corresponding with the building design

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